**REMARKS**

The Office Action and the cited and applied references have been carefully reviewed. No claim is allowed. Claims 8, 9, 12, 14-19, 25, 27, 28, and 30-41 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

The face-to-face interview among the undersigned and Examiner Hayes on December 14, 2004, is gratefully acknowledged. The undersigned wishes to thank the examiner for the courtesies extended during this interview. All claims were discussed with the discussion centered on potential claim language to obviate all pending rejections. The potential claim language discussed at the interview are incorporated into the present amendment to the claims. Besides a discussion on potential amendments to the claims, also discussed was the filing of a continuation or divisional application that would be amenable to including examination of presently non-elected SEQ ID NOs:6 and 8.

Furthermore, the recitation of a polypeptide consisting of amino acid residues 1-205 of SEQ ID NO:2 (and encoded by nucleotides 1-615 of SEQ ID NO:1), which was not discussed with the examiner at the face-to-face interview, is added to the claims as supported by the specification on page 21, last line;

page 26, line 13; page 30, third line from bottom; pages 68-70 (Example 2).

Claim 12 has been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. This objection is now obviated by amended claim 12 being rewritten in independent form to include all the limitations of the base claim and any interviewing claim.

Claims 8-9, 14-19, 27 and 30-31 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is respectfully traversed.

The recitation of residues 184-210 of SEQ ID NO:2 is deleted from base claim 8, thereby obviating the first part of this rejection.

Regarding the examiner's position that the recitation in claim 8 of a human acetylcholine receptor $\alpha$ subunit portion of said fused polypeptide not assuming the native conformation of the $\alpha$ subunit of the human acetylcholine receptor as constituting new matter, applicants respectfully direct the examiner's attention to the instant specification, pages 25-26, paragraphs [0082] and [0083]. The specification here discloses that a

fusion polypeptide that causes the acetylcholine receptor α subunit portion to assume a conformation which is close to its native conformation results in deleterious effects. The best effect as a toleragen is taught to occur when the polypeptide of the present invention is allowed to assume a conformation which is farthest from its native conformation, i.e., does not assume the native conformation. It is further taught that the fusion polypeptide should be first tested to assure that it is not close to the native conformation of the α subunit of the acetylcholine receptor. Thus, although the recitation of "said fused polypeptide does not assume the native conformation of the α subunit of the human acetylcholine receptor" is not taken *ipis verbis* from the specification, it is nevertheless fully supported by the disclosure. Accordingly, the above recitation does not constitute new matter.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Claims 8-9, 16-19, 25, 27-28, and 30-31 stand rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is respectfully traversed.

Claim 8 is now amended to recite closed claim language. Furthermore, it should be pointed out that claim 8 and new claims 32 and 36 all require that the recited fusion polypeptide does not assume the native conformation of the α subunit of the human acetylcholine receptor. Thus, the critical feature of the fusion polypeptide is that it does not allow the α-subunit human acetylcholine receptor portion to assume the native conformation of the human acetylcholine receptor α-subunit as discussed above in the immediately preceding written description/new matter rejection.

The present specification at page 25, paragraph [0082], discloses that fusion to glutathione S-transferase resulted in fusion polypeptides capable of suppressing the immune response to acethylcholine receptor (i.e., human acetylcholine receptor α-subunit portion of the fusion polypeptide did not assume its native conformation), whereas another fusion polypeptide with thioredoxin is disclosed at the bottom of page 21 as being more "native" in conformation and failed to induce oral tolerance.

Paragraph [0091] on pages 29-30 of the specification discloses fusion partners for purposes of increasing solubility as well as being fusion candidates which maintain or result in a non-native or less native conformation for the human acetylcholine receptor α-subunit portion. It is clearly understood from the teachings of the specification as a whole

that any additional polypeptide in the fusion polypeptide should not change the conformation of the human acetylcholine receptor α-subunit portion to assume its native conformation even if it is used for the purpose of enhancing solubility. Accordingly, based on the disclosure in the instant specification of a polypeptide, e.g., thioredoxin, that does not work as an additional polypeptide in the fusion polypeptide and of a polypeptide, e.g., GST, that does work as an additional polypeptide, and furthermore based on disclosure of additional specific polypeptides for fusion with the human acetylcholine receptor α-subunit, the fusion polypeptide is adequately described in the specification as filed.

Moreover, as acknowledged by the examiner at the face-to-face interview, it is far easier to make a fusion polypeptide which loses the native conformation of one of its component polypeptides than it is to retain the native conformation of one of its component polypeptides. Assays for how "native" or "non-native" is the conformation are taught in the specification on pages 26-28.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Claim 9 (vi) has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is obviated by the amendment to claim 9 to delete the recitation of

"is degenerate, as a result of the genetic code, to any DNA sequence of (i) to (v)".

Claims 8 and 9 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is obviated by the amendments to claims 8 and 9.

Claims 15 and 31 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite because the examiner states that it is contradictory and confusing whether such a molecule would "not assume the native conformation of the α subunit of the human acetylcholine receptor" once encoded. This rejection is respectfully traversed.

Claim 15 is now dependent from new claim 36. Claim 31 is ultimately dependent from claim 8. Both claims 8 and 36 are amended to make clear that it is the human acetylcholine receptor α-subunit portion of the fusion polypeptide that does not assume the native conformation of the α-subunit of human acetylcholine receptor as supported on pages 25-26 of the specification (discussed above in the written description/new matter rejection).

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

Claim 19 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is obviated by

the amendment to claim 19 to replace "fused" polypeptide with "fusion" polypeptide.

Claims 8, 16-19, 27-28 and 30 stand rejected under 35 U.S.C. §102(b) as being anticipated by Schoepfer et al. (1988). The examiner holds that applicants' arguments are moot because the claims still recite open claim language versus a "DNA molecule consisting of a sequence that encodes a polypeptide..." as suggested by the examiner.

Claim 8 is amended to recite closed claim language as suggested by the examiner, thereby obviating this rejection.

Reconsideration and withdrawal of this rejection are therefore respectfully requested.

Claims 8-9, 16-19, 25, 28, and 30 stand rejected under 35 U.S.C. §102(b) as being anticipated by Talib et al. (19991 IDS Ref. AM). Like in the above rejection over Schoepfer, the examiner indicates that the claims still recite open claim language instead of closed claim language. The examiner also states that the sole difference between Talib's sequence and the DNA encoding Hα1-210 of claims 8(vi) and (vi), 9(vii), 25, 28 and 30 is the mere addition/fusion of the Met start codon residue at the N-terminal end of SEQ ID NO:2, which is inherently removed during proteolytic processing of eukaryotic proteins.

Claim 8 is amended to recite closed claim language as suggested by the examiner, thereby obviating this rejection.

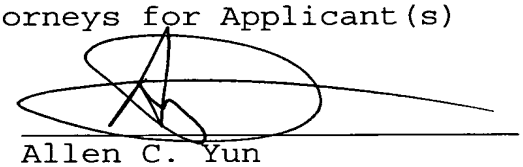
Reconsideration and withdrawal of this rejection are therefore respectfully requested.

New claims 32 and 36 do not use the closed claim language suggested by the examiner, because, as discussed with the examiner at the face-to-face interview, the polypeptide is limited to including residues 1-121 or 1-210 (or 1-205 as newly added) of SEQ ID NO:2, which differ from the sequences of Schoepfer and Talib at Ala33 of SEQ ID NO:2. In both Schoepfer and Talib, this residue is a Val not Ala. Accordingly, Schoepfer and Talib cannot anticipate or make obvious new claims 32 and 36 or claims dependent therefrom.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant(s)

By 
Allen C. Yun
Registration No. 37,971

ACY:pp
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
G:\BN\Y\YEDA\fuchs2A\pto\amd OA 7-22-04.doc